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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,035	02/27/2002	Robert Kincaid	1001011076-1	6480

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Agilent Technologies, Inc
Legal Department, DL429
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EXAMINER

SMITH, CAROLYN L

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,035

Applicant(s)

KINCAID, ROBERT

Examiner

Carolyn L. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 22, 27, 28, 31-37 and 41-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 22, 27, 28, 31-37 and 41-49 is/are rejected.
- 7) ☒ Claim(s) 47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08).
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendments and remarks, filed 9/22/06, are acknowledged. Amended claim 9 and new claims 45-49 are acknowledged.

Applicant's arguments, filed 9/22/06, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from the previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 1-11, 22, 27-28, 31-37, and 41-49 are herein under examination.

Claim Objections

Claims 47 and 48 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Parent claim 46 includes the requirement of all three steps whereas claims 47-48 only recite one step that is broader than the parent claim. It is noted that claim 49 depends from claim 45 (not claim 46), so it is NOT objected to for the same reason.

Applicant is advised that should claim 1 be found allowable, claim 45 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight

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difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims Rejected Under 35 U.S.C. § 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 46-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. These rejections are necessitated by amendment.

Claim 46 recites “said checking” which lacks proper antecedent basis as there is no previous mention of “checking”. Clarification of this issue via clearer claim wording is requested. Claims 47-48 are also rejected due to their dependency from claim 46.

Claim Rejections – 35 USC §102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 1-11, 22, 27-28, 31-37, 41-46 and 48 are rejected under 35 U.S.C. 102(e)(1) as being anticipated by Zhou et al. (US 2003/0120432 A1). The priority date relied upon for the above mentioned patent application publication comes from provisional applications. This rejection is necessitated by amendment.

Copies of the provisional applications are not included with this Office action, because the copies could not be readily obtained when the Office action was mailed. Should applicant desire a copy of such a provisional application, applicant should promptly request the copy from the Office of Public Records (OPR) in accordance with 37 CFR 1.14(a)(1)(iv), paying the required fee under 37 CFR 1.19(b)(1). If a copy is ordered from OPR, the shortened statutory period for reply to this Office action will not be reset under MPEP § 710.06 unless applicant can demonstrate a substantial delay by the Office in fulfilling the order for the copy of the provisional application. Where the applicant has been notified on the PTO-892 that a copy of the provisional application is not readily available, the provision of MPEP § 707.05(a) that a copy of the cited reference will be automatically furnished without charge does not apply.

Zhou et al. disclose a method for generating a custom probe array design wherein a system receives user-selected identifiers (array design parameters) (abstract), as stated in instant claims 1, 6, 22, and 45. Zhou et al. disclose the user selecting probe set identifiers from a corresponding list that correspond to a gene (paragraph 0009). Zhou et al. disclose a web portal processes inquiries regarding biological information and a user selects « probe set identifiers » which enable detection of nucleic acids and genes for microarray experiments (paragraph 0005) which represents a customer selecting at least one array design parameter and at least one gene of interest, as stated in instant claims 1, 22, 27, and 45. Zhou et al. disclose the genomic portal

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system receives user-selected identifiers including sequence information, the system verifies probes corresponding to identifiers and generates a custom probe array design (paragraphs 0006 and 0008) and constructing and arranging arrays to detect and/or measure any one gene expression (paragraph 0007) which represents providing parameters to the vendor who curates the sequence and selects the probes specific for the curated sequence as mentioned in paragraph 0005, as stated in instant claims 1, 22, 27, and 45. Zhou et al. disclose using remote vendor business systems and servers (Figure 4, #404 and paragraph 0134), as stated in instant claims 1, 2, 22, 27, 31, and 45. Zhou et al. disclose further generation including modifying or rejecting one or more user-selected probe array format factors including user-selected probe set identifiers and displaying this information to the user (paragraph 0010) which represents the vendor selecting at least one probe specific for the curated gene sequence, as stated in instant claims 1, 22, 27, and 45. Zhou et al. disclose a verifier/designer performs an analysis of the user-provided input sequence to determine which portions of the sequence should be represented by probes because some portions may consist of short, common repeats that are not effective in uniquely representing the sequence as a whole (paragraph 0125) and using masks (paragraph 0063) which represents curating comprising removal of commonly repeated subsequences, as stated in instant claims 42-44, 46, and 48. Zhou et al. disclose analyzing the complexity of the user-provided sequence and report that the sequence is insufficiently complex with too many repeats to be uniquely and/or reliably represented by a probe set (paragraph 0126). Zhou et al. disclose a method and system (vendor) enabling a number of users to share space on an array or enabling a number of users to share in ordering portions of a lot of catalog probe arrays for economical benefit (paragraphs 0005 and 0006), which represents the vendor providing at least one

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additional array design parameter including probe selection as well as layout parameters, as stated in instant claims 1, 5, 27, 34, and 45. Zhou et al. disclose synthesizing the probe arrays (paragraph 0010) which represents completing the array design and fabricating the array, as stated in instant claims 1, 22, 27, 28, and 45. Zhou et al. disclose the user may select many probe array format factors such as number of probes, dimensions of probes, maximum number of probes representing one or more genes, substrate material (paragraph 0009) which represents the user selecting "other" customer selected array design parameters, as stated in instant claims 33-36. Zhou et al. disclose the user may select geographic dispersion of probe sets (paragraph 0009) which represents a customer selected array design layout and probe parameters, as stated in instant claims 5, 34, and 35. Zhou et al. disclose using a probe set with controls, as stated in instant claims 7 and 36. Figure 14 shows a graphical user interface for providing options and design selections (paragraph 0039), as stated in instant claims 8 and 37. Figure 15 shows a graphical user interface for providing one or more custom probe array designs or probe set designs (layouts) (paragraphs 0010 and 0040) which represents visual display of array layout of at least one customer selected array design parameter, as stated in instant claim 9. Zhou et al. disclose receiving probe set identifiers that identify potential probes and verifying probe sets of verified probes (paragraph 0007), which represents some probe selection by a vendor, as stated in instant claims 1, 27, and 45. Zhou et al. disclose displaying the custom probe array design to the user via graphical user interface and receives a user selection specifying acceptance, modification, or rejection of the design (abstract and Figure 15), as stated in instant claims 10 and 11. The user acceptance of array design represents completion of the design by the vendor, as stated in instant claims 1, 2, 22, 27, 31, and 45. The user modification of the design represents

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completion of the array design by the customer, as stated in instant claims 1, 3, 22, 27, 32, and 45. Zhou et al. disclose providing the user with the accepted or modified custom probe array (abstract). Zhou et al. disclose using arrays for genes and nucleic acids (Figure 2 #230), as stated in instant claims 4, 22, and 27. Zhou et al. disclose researchers using microarrays to determine which genes are expressed in certain cells or organs, extracting biological information, and designing follow-up experiments (paragraph 0004). Zhou et al. disclose the probe set identifiers may be selected by the user from a predetermined list where each item may correspond to an EST, gene, splice variant, or protein (paragraph 0009) which represents selecting at least one gene of interest and probe parameter for said gene, as stated in instant claim 27. Zhou et al. disclose systems, methods, and computer program products to address these needs, such as allowing the user to select probe identifiers that may be associated with probe sets of one or more probes that are capable of detecting genes of interest, which are then correlated with data and/or products to be provided to the user (paragraph 0006), as stated in instant claim 27. Figures 7A and 10 show displaying and providing genomic data, sequence data, expression data, and various other forms of information to the user (paragraphs 0030 and 0034), as stated in instant claim 27. Zhou et al. disclose synthesizing probes on a substrate (paragraph 0090), as stated in instant claim 28. Zhou et al. disclose selecting substrate material or design and synthesized probe arrays (paragraph 0010), as stated in instant claim 28. Zhou et al. disclose constructing probe arrays to detect or measure one or any combination of biological information including gene expression, genotype, cells, cellular membranes, and organelles (paragraph 0007) which represents an in situ array, as stated in instant claim 41.

Thus, Zhou et al. anticipate claims 1-11, 22, 27-28, 31-37, 41-46 and 48.

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Applicant requests the specific identification and provision of the provisional priority documents relied upon in the Zhou et al. reference. It is noted that all of the provisional applications were relied upon for the Zhou et al. reference, particularly 60/265,103 and 60/301298. As stated in the previous office action, Applicant has been advised in how to obtain copies of these provisional applications. Applicant summarizes Zhou et al. Applicant argues that the “array design parameter” as recited in the instant claims is not related to identifying probes. Then Applicant describes how the term is implied to be usable, such as for layout parameters, and refers to paragraph 0067 of the specification. These statements are found unpersuasive since the limitation “array design parameter” does not have a clear and concise definition in the specification (i.e. note the “may include” and “such as” exemplification terminology in paragraph 0067). Therefore, this phrase has been broadly and reasonably interpreted to include any kind of parameter involved in the design of an array, including probe information. Applicant’s arguments are deemed unpersuasive for the reasons given above.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 47 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. (US 2003/0120432 A1) as applied to claims 1-11, 22, 27-28, 31-37, 41-46 and 48 above, and further in view of Rothberg et al. (2003/0003463). This rejection is necessitated by amendment.

Zhou et al. describe the limitations of instant claims 1-11, 22, 27-28, 31-37, 41-46 and 48, as stated in the 35 USC 102 rejection above. Zhou et al. do not describe checking sequences for errors (instant claim 47) and removal of artifacts associated with sequence assembly (instant claim 49).

Rothberg et al. describe using error checking cells including probes for hybridization to minimize false positives (claim 51 and paragraphs 0069 and 0226) which represents checking the sequences for errors, as stated in instant claim 47. Rothberg et al. describe removing mis-hybridized sequences (claim 15, paragraphs 0026, 0029, and 0224) which represents removal of artifacts associated with sequence assembly, as stated in instant claim 49. Rothberg et al. describe removing unnecessary sequence from a fragment to be sequenced (paragraph 0147).

Zhou et al. state researchers are increasingly challenged to extract biologically meaningful information from the vast amounts of data generated by microarray technologies and to design follow-up experiments (0004). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Zhou et al. by using error checking cells and removing artifacts as taught by Rothberg et al. where the motivation would have been to minimize false positives (Rothberg et al., claim 51 and paragraphs 0069 and 0226) in order to extract meaningful information (Zhou et al. 0004). Thus, Zhou et al. in view of Rothberg et al. make obvious the instant invention.

Conclusion

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

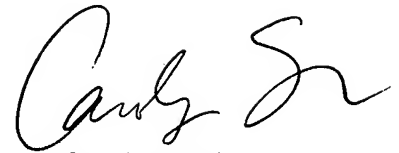
Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The Central Fax Center number for official correspondence is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on (571) 272-0811.

November 27, 2006

A handwritten signature in black ink, appearing to read 'Carolyn Smith', with a stylized flourish at the end.

Carolyn Smith
Examiner
AU 1631